

CLAIMS:

1. An arrangement in a common rail fuel injection apparatus for controlling the fuel injection, the arrangement (4) comprising a body part (5) into which is arranged a space (6), through which the fuel to be injected in operation flows, a fuel inlet opening (7) and a fuel outlet opening (8) opening into the space (6) between a movably arranged piston means (9) and flow connection formed by a flow path between the inlet opening (7) and the outlet opening (8), **characterized** in that the flow path comprises at least one throttling portion (35, 40, 91, 92) opening into the space in the body part, the cross-sectional flow area of which throttling portion is arranged to be increasing while the piston means (9) is moving in respect to the body part (5) at the beginning of the injection.
2. An arrangement according to claim 1, **characterized** in that the throttling portion comprises a number of openings (35) arranged thereto in various locations along its longitudinal axis, the openings extending from inside the piston means to its outer surface.
3. An arrangement according to claim 1, **characterized** in that the throttling portion comprises at least one opening (35.2) arranged on the piston means, extending in the direction of the longitudinal axis of the piston means.
4. An arrangement according to claim 1, **characterized** in that the piston means comprises an actuator (80) operating independently from the fuel pressure.
5. An arrangement according to claim 1, **characterized** in that the throttling portion comprises a control edge formed by a border area, in which the inner surface of the body part (5) and the outer surface of the piston means (9) are released from contact with each other or other effect throttling the flow.
6. An arrangement according to claim 2 or 3, **characterized** in that a damping space (6.1) and a channel (35.2) for connecting the space (6) with the damping space are arranged in connection with the other end of the piston means (9).

7. An arrangement according to claim 4, **characterized** in that the spring (10) of the piston means is arranged inside the damping space (6.1).
8. An arrangement according to claim 1, **characterized** in that the piston means (9) is formed from a tubular piece, the wall thickness of which is smaller than the inner diameter of the piece.